**Great Lakes Works**
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June 28, 2017

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Sir/Madam:

Re: *United States, et al. v United States Steel Corporation*
Consent Decree 2:12-cv-304, DJ# 90-5-2-1-06476/1
United States Steel Corporation – Great Lakes Works
Blast Furnace Runner Cover Plan

Pursuant to Paragraph V.C.15. of the above-referenced Consent Decree, U. S. Steel is submitting the Blast Furnace Runner Cover Plan for your review.

If you have any questions regarding this matter or require additional information, please contact Alexis Piscitelli at 313-749-3900 or apiscitelli@uss.com.

Sincerely,

Alexis Piscitelli
Director, Environmental Control
Great Lakes Works
United States Steel Corporation

cc: David Hacker (USS)

attachments

# U. S. STEEL – GREAT LAKES WORKS
# Runner Cover Plan


## Abstract

The Runner Cover Plan provides a written procedure for using runner covers in identified locations and situations in which runner covers will not be in place

# Table of Contents

# Section A

## Process and Equipment Description

Runner covers are utilized after the skimmer block on the iron trough and the slag trough. The covers are utilized for safety reasons. Additionally, the covers provide for access around the furnace over the active slag trough. Runner covers are removed temporarily during periods in which operators are responding to situations including, but not limited to, maintenance, operational requirements, safety, and risk minimization. Runner covers cannot be located before and after the gates because continuous access is needed to ensure iron is flowing and assure iron is flowing freely through the gates. The runners in front of the furnace also need to be continuously open to allow for drill and mud gun access and access to view the tap hole. An exemption list for removing runner covers is included in Section D.

# Section B

## Runner Cover Drawing B-2

In the Runner Cover Drawing below, the blue highlighted areas represent where the runner covers are placed during normal operations. The pink highlighted areas represent the primary capture hood and the dome cover that is placed over the iron trough that allows for samples of the iron to be safely taken. A represents the Drain Runner which is rarely used, and remains uncovered when needed. B and C represent the slag runners for B2 furnace. Only one is in use at a time, and subsequently only the in-use runner is covered. Portions of the runners are left uncovered during operations to ensure proper flow and to prevent overflowing.

B2
Iron Trough
Iron well
Drain Runner
A
B
Slag Runner
C
Slag Runner

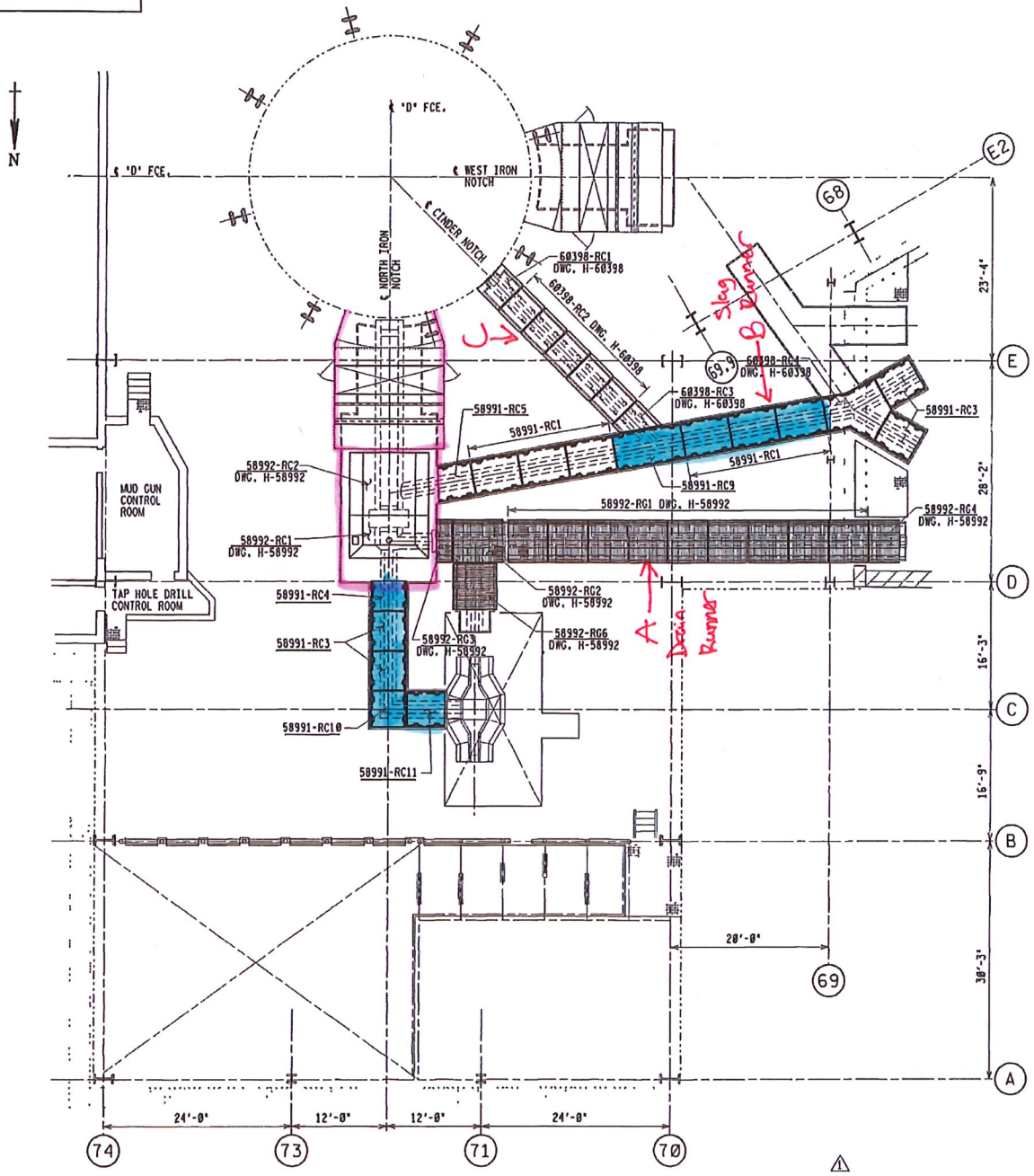
H-62572

# Section C

## Runner Cover Drawing D-4

In the Runner Cover Drawing below, the blue highlighted areas represent where the runner covers are placed during normal operations. The pink highlighted areas represent the primary capture hood and the dome cover that is placed over the iron trough that allows for samples of the iron to be safely taken. A represents the Drain Runner which is rarely used, and remain uncovered when needed. B represents the slag runner for D4 furnace. The Runner labeled C is the cinder notch, and is filled in completely with dirt, and is only used when the furnace must be drained quickly for safety reasons. In the case the cinder notch is needed, it is not covered. Portions of the runners are left uncovered during operations to ensure proper flow and to prevent overflowing.

H-58991


N
℄ 'D' FCE.
℄ WEST IRON NOTCH
℄ CINDER NOTCH
℄ NORTH IRON NOTCH
60398-RC1 DWG. H-60398
60398-RC2 DWG. H-60398
60398-RC4 DWG. H-60398
60398-RC3 DWG. H-60398
58991-RC5
58991-RC1
58991-RC3
58991-RC9
58992-RC2 DWG. H-58992
58992-RG1 DWG. H-58992
58992-RG4 DWG. H-58992
58992-RC1 DWG. H-58992
MUD GUN CONTROL ROOM
TAP HOLE DRILL CONTROL ROOM
58991-RC4
58992-RC3 DWG. H-58992
58992-RG6 DWG. H-58992
58991-RC10
58991-RC11
Slag Runner
Iron Runner
E2
68
69
E
D
C
B
A
23'-4"
28'-2"
16'-3"
16'-9"
38'-3"
20'-0"
24'-0"
12'-0"
12'-0"
24'-0"
74
73
71
70

# Section D

# Exceptions List for Runner Cover Removal

| Classification | Description |
|---|---|
| Shutdown | When shutting down for a planned or unplanned outage, the runner covers are removed to ensure the troughs drain properly and to perform maintenance, as required. |
| Start-up | When starting up from a planned or unplanned outage, the covers are not placed until iron and/or slag are flowing properly. |
| Changing Slag Pits | Covers are removed when changing slag pits. Covers are moved to the appropriate trough once slag is flowing properly. |
| Cold Runner | Covers are removed if the iron and/or slag trough is too cold. The cold trough could cause metal to solidify and cause the trough to overflow. |
| Cold Iron/Slag | Covers are removed to assist in keeping the iron and/or slag moving if the iron and/or slag is too cold. The cold iron/slag could cause metal to solidify and cause the trough to overflow. |
| Cleaning of the Trough | Covers are removed to clean the trough. At times, material will build up on the sides of the trough and must be removed for access to remove build-up to ensure the flow of iron and/or slag and prevent an overflow onto the casthouse floor. |
| Dry-out of Trough | If it is suspected moisture may be present in the trough, the covers are removed and natural gas lances are placed to dry-out the trough. |
| Inspection | Covers may be removed for visual inspection and repair of refractory between casts. |
| Malfunction | When a malfunction occurs, covers may be removed to prevent safety incidents and protect assets. |